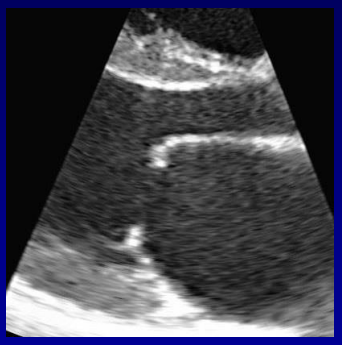
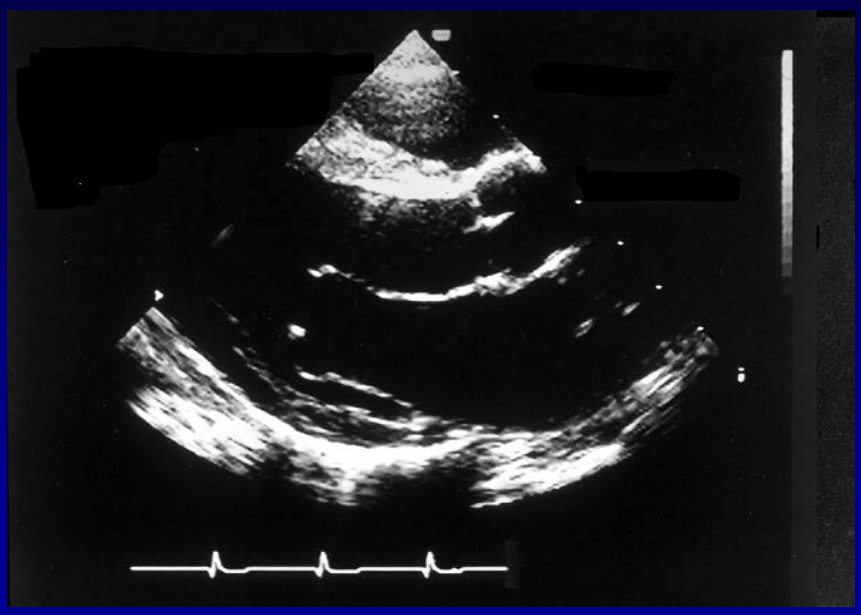
In what conditions is there diastolic mitral leaflet doming with the leaflet concave toward the LA ?

1. Rheumatic MS
2. Rheumatic and calcific MS
3. Rheumatic and congenital MS
4. Rheumatic MS and AI with flow hitting the mitral valve





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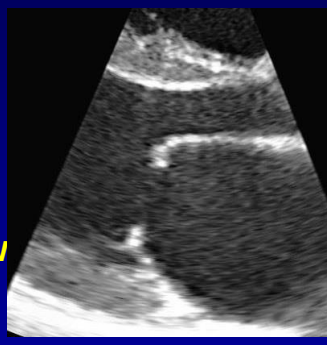
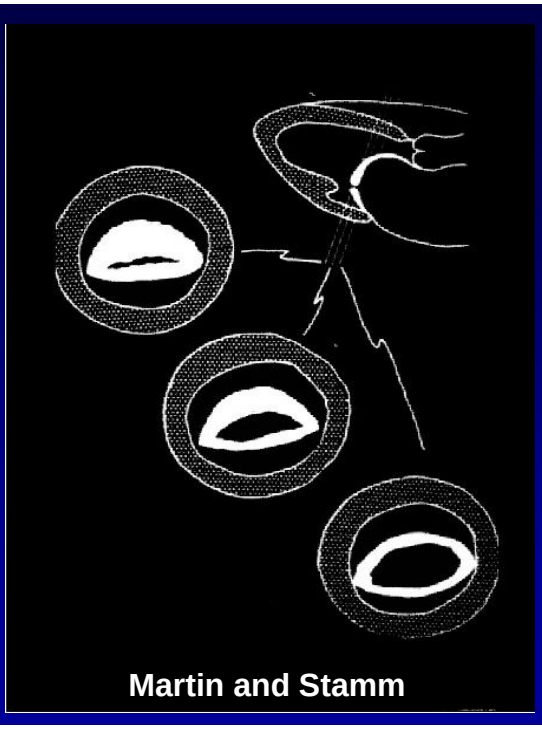


In mitral stenosis, which is the best view to guide placement of the beam to measure the narrowest orifice area?

A. The parasternal long-axis view
B. The parasternal short-axis view
C. The apical 2-chamber view
D. The apical 4-chamber view



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D. The apical 4-chamber view

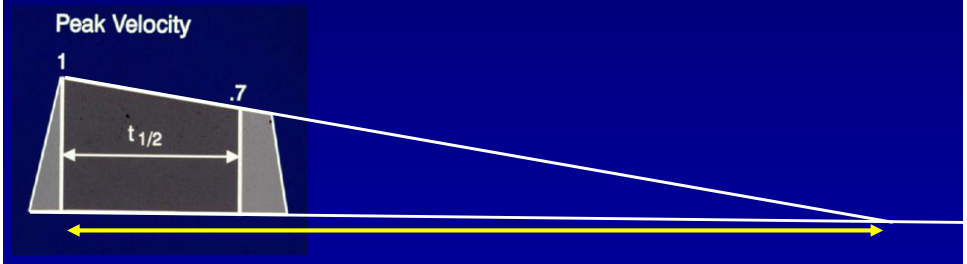
A patient has mitral stenosis with an E-wave deceleration time of 1000 milliseconds. What is the mitral valve area?

1. 0.22 cm^2
2. 0.75 cm^2
3. Depends on cardiac output
4. 1.5 cm^2

PHT = 29% of total deceleration time (DT)

MVA = 220 / Pressure half time

MVA = 750 / Deceleration time



Deceleration time

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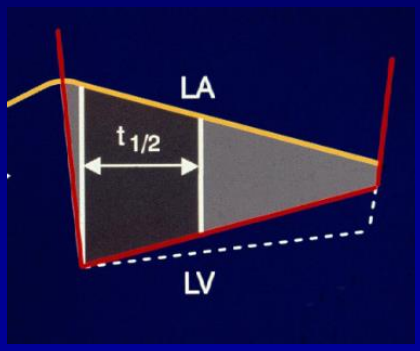
How does the mitral pressure half time vary with these parameters?

1. Directly with mitral valve area, directly with ventricular stiffness
2. Directly with mitral valve area, inversely with ventricular stiffness
3. *Inversely* with mitral valve area, directly with ventricular stiffness
4. *Inversely* with mitral valve area, inversely with ventricular stiffness

↓ MV area → ↑ Decel time

↑ LV stiffness → ↓ Decel time



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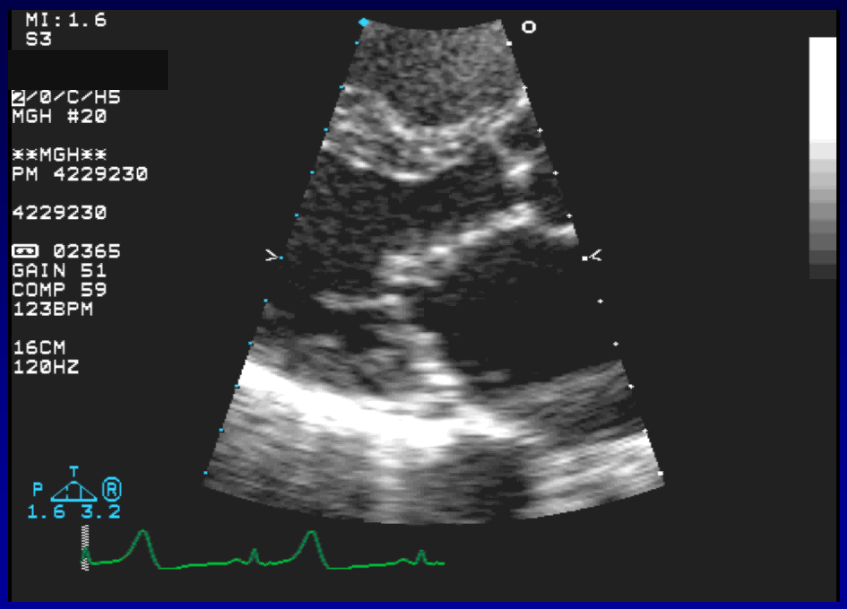
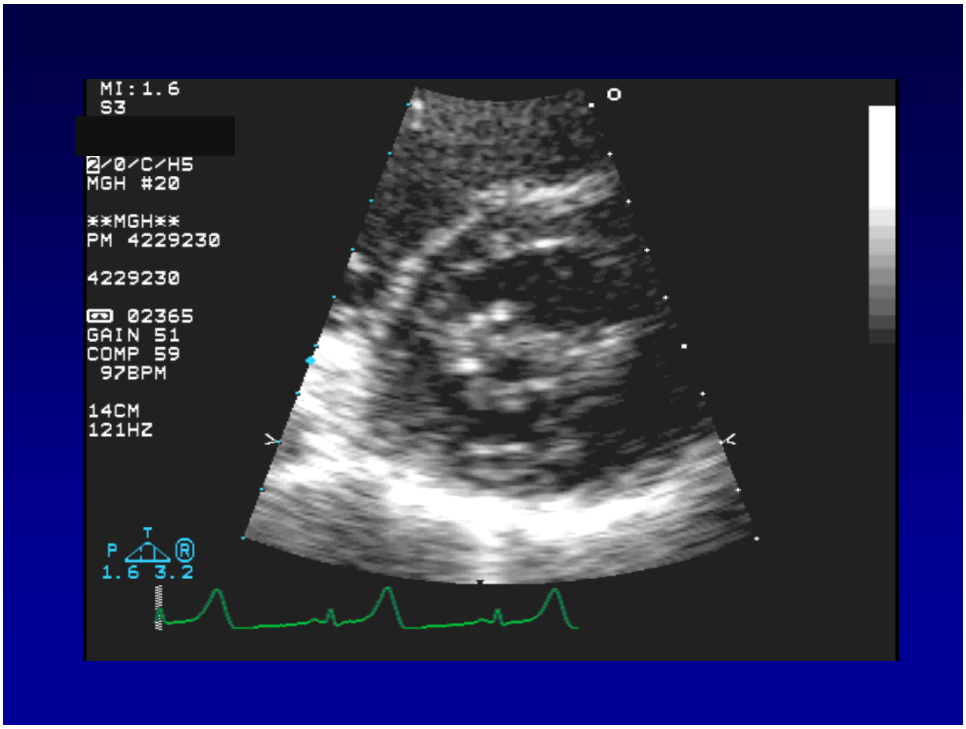
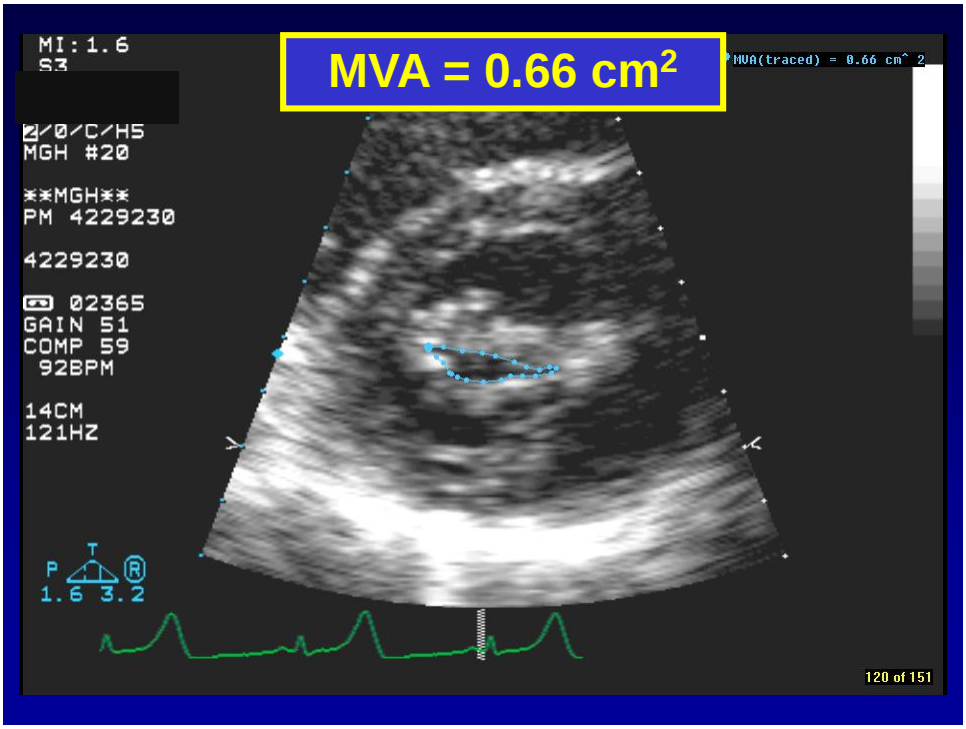
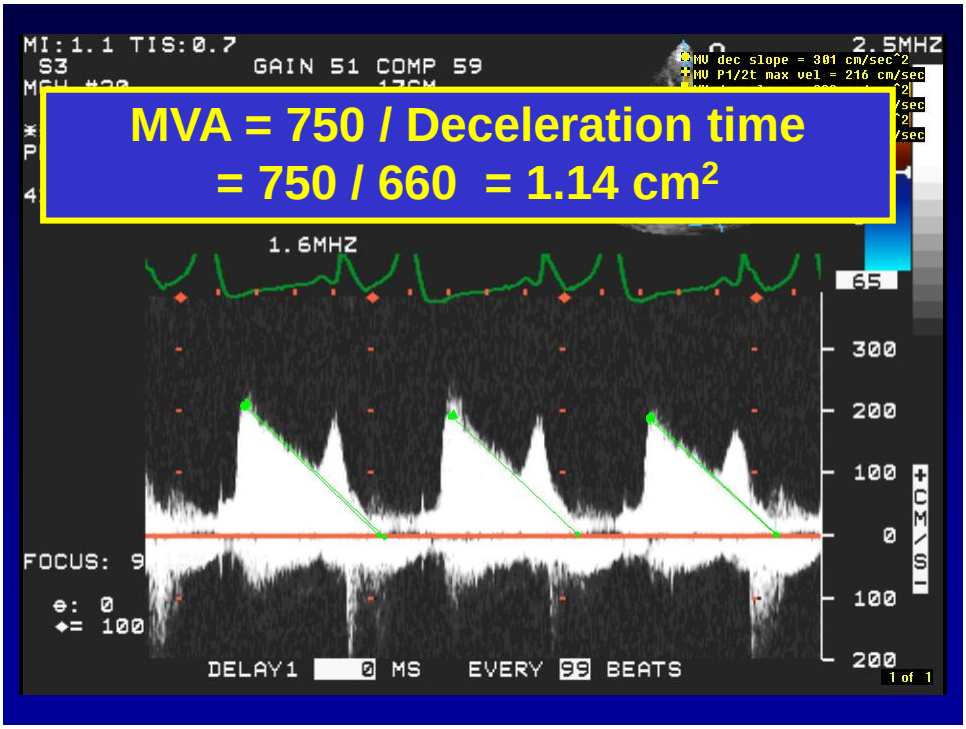
What condition can explain the difference in MV area by planimetry and half time in the following patient?

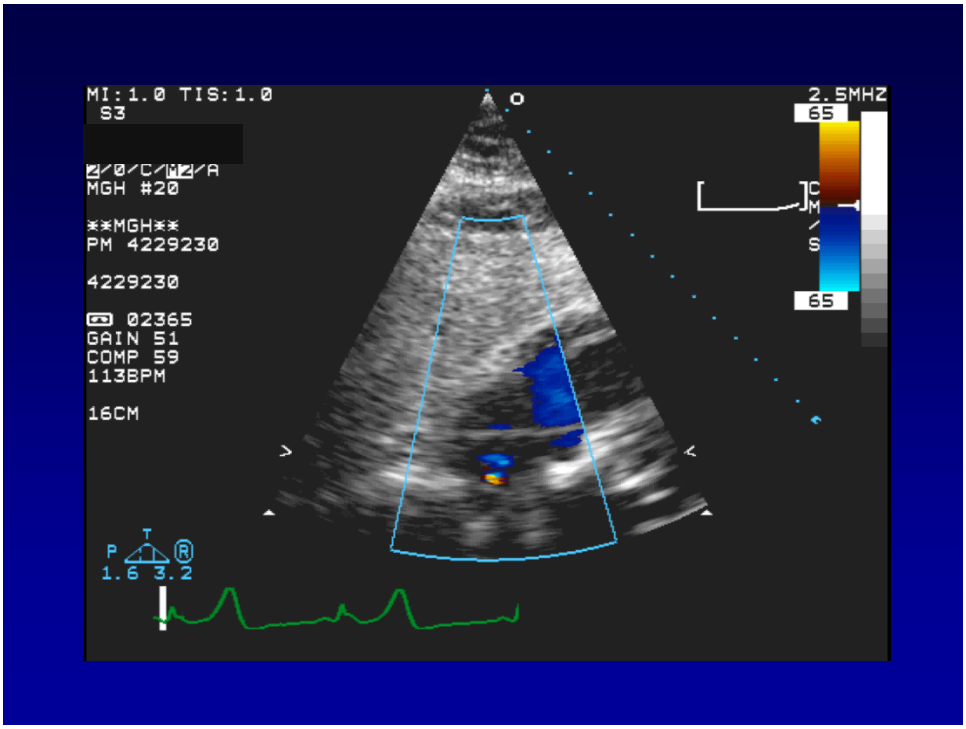
A. Mild aortic insufficiency
B. Post-balloon atrial shunt PFO
C. Moderate mitral regurgitation
D. Left atrial enlargement

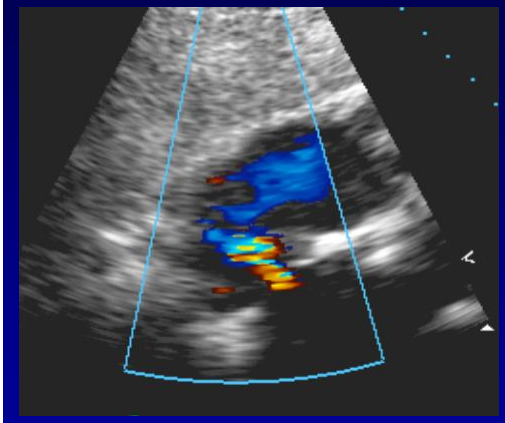


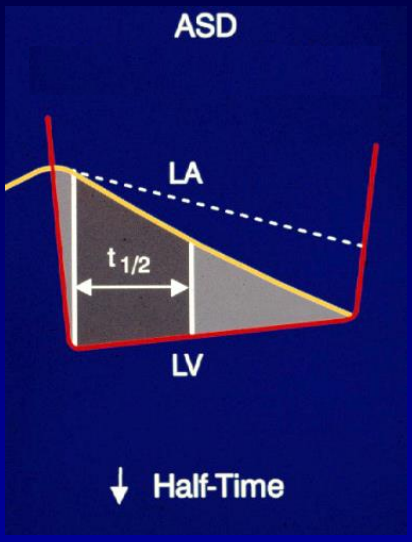

MI:1.6
S3
2/0/C/H5
MGH #20
MGH
PM 4229230
4229230
02365
GAIN 51
COMP 59
97BPM
14CM
121HZ
P T R
1.6 3.2


MVA = 0.66 cm²
MVA(traced) = 0.66 cm^ 2
MI:1.6
S3
2/0/C/H5
MGH #20
MGH
PM 4229230
4229230
02365
GAIN 51
COMP 59
92BPM
14CM
121HZ
P T R
1.6 3.2
120 of 151


MI:1.1 TIS:0.7
S3
GAIN 51 COMP 59
2.5MHZ
MV dec slope = 301 cm/sec^2
MV P1/2t max vel = 216 cm/sec
MVA = 750 / Deceleration time
= 750 / 660 = 1.14 cm²
1.6MHZ
65
300
200
100
0
100
200
CM/S
FOCUS: 9
0: 0
100
DELAY1 0 MS EVERY 99 BEATS
1 of 1


MI:1.0 TIS:1.0
S3
MGH #20
MGH
PM 4229230
4229230
02365
GAIN 51
COMP 59
113BPM
16CM
2.5MHZ
65
65
P
T
R
1.6 3.2





What condition can explain the difference in MV area by planimetry and half time in this patient?

A. Mild aortic insufficiency
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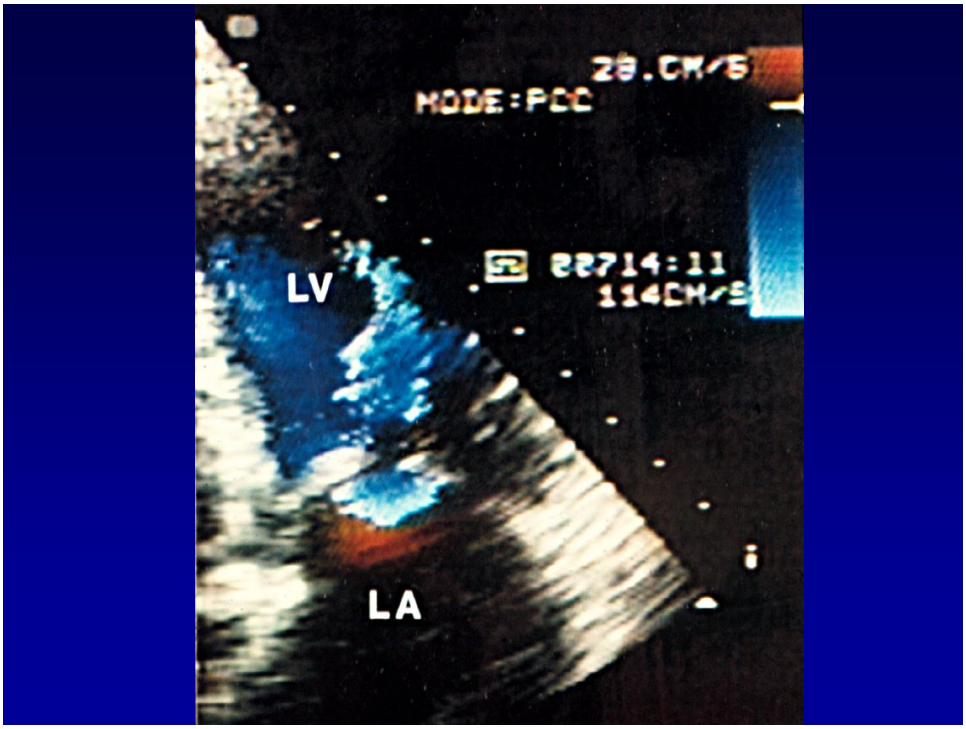
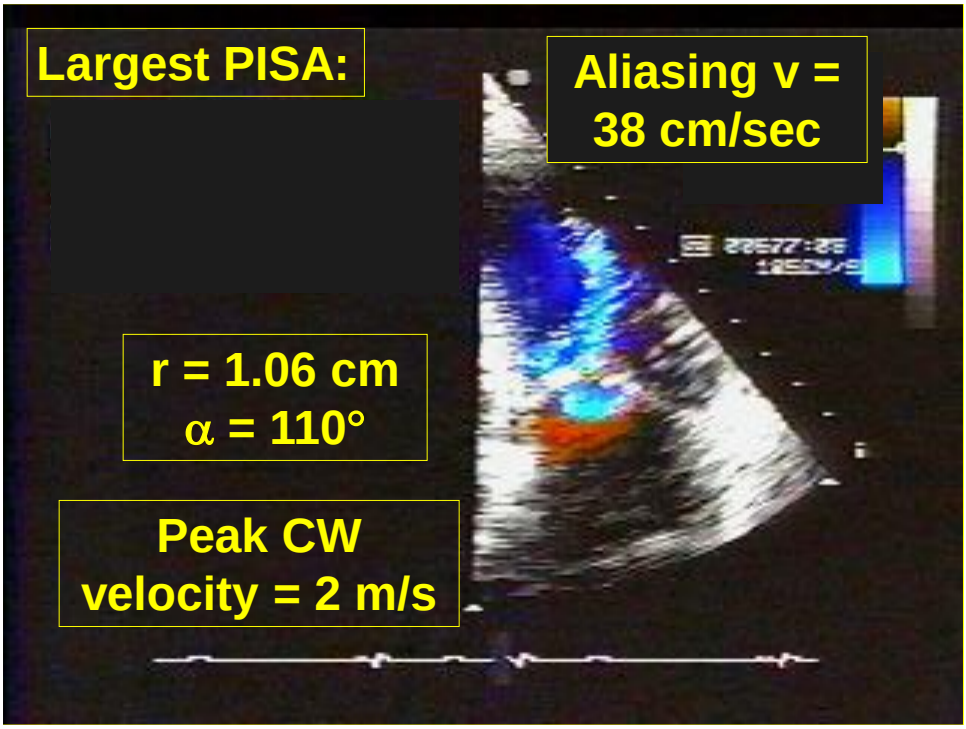
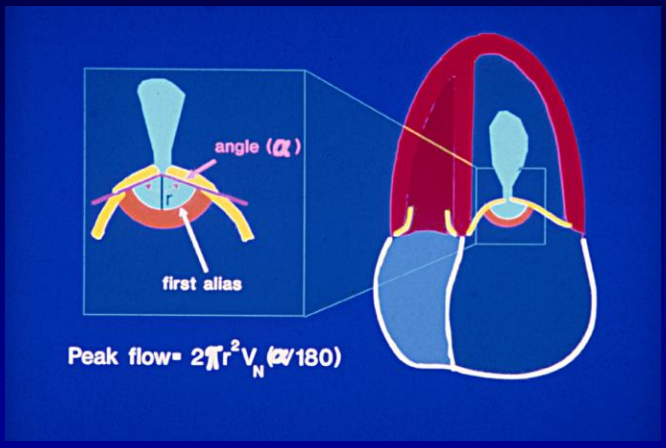
What is the mitral valve area in this patient?

A. 0.82 cm^2
B. 1.34 cm^2
C. 1.0 cm^2
D. Need more data


28.CM/S
MODE:PCC
LV
LA


Largest PISA:
Aliasing v = 38 cm/sec
r = 1.06 cm
α = 110°
Peak CW velocity = 2 m/s

PISA Method



MVA = Peak Flow/Peak MS velocity

Leonardo Rodriguez

Peak flow rate = $2\pi r^2 v (\alpha/180)$

r = 1.06 cm

v = 38 cm/sec

α = 110°

Peak flow rate = 164 cm^3 /sec

MVA = Peak flow rate / Peak velocity
= (164 cm^3 /sec) / (200 cm/sec)
= 0.82 cm^2

What is the mitral valve area in this patient?

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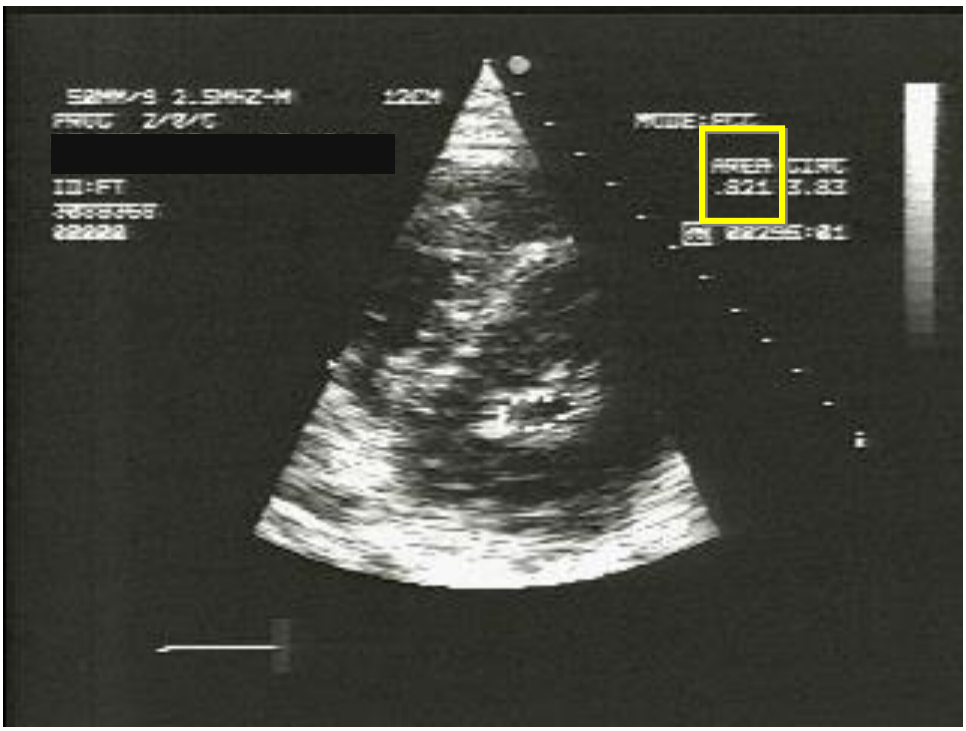
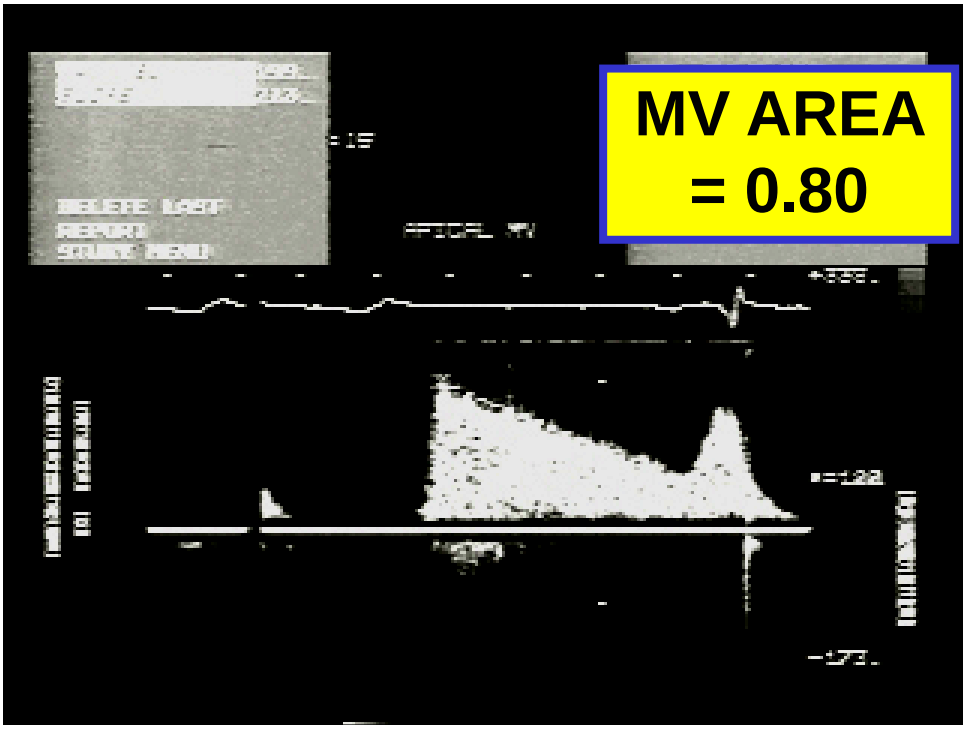
- **C. 1.0 cm^2**
- **D. Need more data**





In evaluating mitral stenosis, the pressure half time is calculated as:

a. The time taken to drop to 0.7 x the peak pressure gradient
b. The time taken to drop to half the peak pressure gradient
c. The time taken to drop to half the peak velocity
d. The pressure gradient at half the diastolic filling period

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